



The Conservation Strip

CONSERVING NATURAL RESOURCES FOR A BETTER ENVIRONMENT

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Constructed Wetlands in Fauquier County

By: Debbie Switzer, Erosion & Sediment Control Specialist

The John Marshall Soil and Water Conservation District currently inspects five projects that involve the restoration and / or creation of approximately 276 acres of wetlands in Fauquier County. These wetlands are being created by various developers and consultants for credits, or as 'banks' for other construction projects that impact wetlands.

Wetlands used to be considered useless wastelands. Now, however, wetlands are considered beneficial for many reasons. They create a unique habitat for an amazing variety of wildlife and fish. Wetlands are also valuable in reducing flood impacts. They act like sponges and slow the flow of water and also encourage groundwater recharge. One small wetland may not hold a great deal of water, but a network of many small wetlands can hold a lot of water. Wetlands act as a filter and reduce the amount of sediment and nutrients (from natural and chemical fertilizer runoff) in the water. Educational opportunities can also be provided for students to observe an ecosystem in action. The owner of one of the local wetlands projects hopes to be able to offer educational opportunities for local high school students. During our inspections we have observed deer, Canadian Geese, black snakes, great blue herons and various other birds, raccoon footprints, tadpoles, frogs, and turtles.

Wetlands are regulated by the U.S. Army Corps of Engineers (and other state and local agencies). Generally, if a builder adversely impacts wetlands or destroys wetlands, then a permit is needed and mitigation is required. A wetland mitigation plan is usually a last resort. Developers must first try to avoid wetlands. If that is not practical, then they must try to minimize the wetland impacts. If wetland impacts still occur, mitigation is required. Socio-economic

impacts of the proposed project and possible alternatives are considered along with the value of the natural resources.

Wetland impacts are mitigated based on their value, function and location. They must mitigate for stream and water quality impacts within the same watershed in which the impacts occurred. All of the wetland sites we are now inspecting are in the Potomac watershed. Forested impacts are mitigated on a 2:1 basis, meaning that for every acre of forested wetlands impacted, two acres must be created. Emergent wetlands (wetlands that support rooted non-woody vegetation - not trees and shrubs) are replaced on a 1:1 basis. A forested wetland will take many years to mature and provide the same benefits as the forested wetland impacted. An emergent wetland can be established and functioning in much less time. The plants chosen for the mitigation sites are based in part on the impacted wetland, and also on the types of plants that are successful in nearby wetlands.



Pandora Farms Wetlands - This section has been planted with live-stakes of red-osier dogwood and black willow. It will eventually become a forested wetland.

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Springtime Highlights!!



Seventh grade students from Cedar Lee meet a dairy calf at Elk Mount Farm during Conservation Field Day on April 20.



Third graders are introduced to the soil pit by Dave Stewart at the Farm Tour held at Elk Mount on April 22.



Recycling with Tom Turner is always a hit as Cedar Lee students add a layer of freshly shredded newspaper to the barn.



Sean Krutchen, Ryan Dunn, John Leu, Tommy Sabanos, and Kyle Kirk of Highland competed in the Envirothon on April 29.



Sarah Henry of Highland was the first place winner in the annual 4th Grade Poster Contest.



Fauquier High School students from Helen Lathrop's class check for macroinvertebrates in Cedar Run.

Educational Activities Abound

The third week of April was certainly a week to remember for JMSWCD personnel, as they hosted three major events on two days. On April 20th, over 230 students from **Cedar Lee Middle School** visited Elk Mount Farm for the annual Conservation Field Day. On April 22, 250 third grade students from **Mary Walter, Brumfield, and Pearson Elementary Schools** visited Elk Mount, while another 200 third graders from **P.B. Smith and M.M. Pierce** visited Inglewood Farm. The third grade event was a Farm Tour that was originally scheduled for last September, but was cancelled by Hurricane Isabel.

The JMSWCD thanks the **Patton family** and the **Ritchie family**, not only for hosting these events, but also serving as guest speakers. Numerous other guest speakers who made these events possible included **Robert Shoemaker** and **Jay Marshall**, Department of Conservation and Recreation; **Robyn Joiner** and **Julie Woodlief**, Joiner Micro Labs; **Danny Hatch** and **Dave Stewart**, County Soil Scientists; **Chuck Kuhler**, Department of Forestry; **Jim Scibek, B.J. Murry**, and **Judy McConnell**, Master Gardeners; Extension Agents **Keith Dickinson, Kenner Love, Cyndi Marsten, Carl Stafford, Heather Greenwood, Doug Harpole**, and Extension Volunteer **Barbara Lacy**; and **Tom Turner**, JMSWCD.

Also in April, a team from **Highland School** participated in the Envirothon in Fairfax, while another Highland student, **Sarah Henry**, won the 4th Grade Poster Contest. Two science classes at Highland also grew aquatic grasses (see page 6) which were planted in the Chesapeake Bay in early June as part of a bay grass restoration project sponsored by the Chesapeake Bay Foundation.

Helen Lathrop's Biology classes at **Fauquier High School** continued to monitor Cedar Run and the Outdoor Lab pond, while students from **Taylor Middle School, Grace Miller Elementary**, and **C. Hunter Ritchie Elementary** took advantage of soil erosion and pollution presentations featuring the Enviroscope model.

Low Interest Loans for Ag BMP's

Low interest loans for many Agricultural Best Management Practices are available to qualifying agricultural producers in Virginia. The loans, which are offered at a 3% fixed interest rate, are provided through Virginia's Revolving Loan Fund.

Typical practices that are eligible for loan funding include construction of animal waste storage facilities, fencing for stream bank protection, installation of alternative livestock water sources, stream crossings, livestock travel lanes, rotational grazing systems, composting facilities, loafing lot management systems, and storm water runoff diversions.

Although loans are typically provided to producers participating in State and Federal agricultural cost-share programs, up to 100% of eligible practice costs may be funded through the loan program without the applicant's participation in any cost-share program.

Participants in the loan program need to acquire a satisfactory credit review and provide evidence that they have obtained either a conservation plan or a nutrient management plan for the proposed practice.

Credit reviews are conducted by local Farm Credit offices in Virginia through a cooperative agreement with the Virginia Revolving Loan Fund. Conservation plans are typically compiled at local conservation district offices and Natural Resources Conservation Service field offices. Nutrient management plans may be prepared by any Virginia certified nutrient management planner.

The loan process begins by submitting a simple pre-application to the Virginia Revolving Loan Fund's Construction Assistance Program office. Guidelines can be obtained at most Farm Credit, Conservation District, and Construction Assistance Program offices. For additional information, or to obtain a copy of the Guidelines, contact Van Gallier at the Richmond Construction Assistance Program office by calling (804) 698-4243, or Dave Knicely at the Harrisonburg office (540) 574-7891.

Airlie Dam Wins Award	Teacher's Corner
<p>The Town of Warrenton has been recognized by the Virginia Lakes and Watershed Association for excellence in the maintenance and operation of the Airlie Dam. The Town received the Association's "Best Maintained Dam Award" this spring for the procedure and diligence that staff have exercised in protecting a valuable resource and the safety and welfare of the public.</p> <p>For several years, Department of Recreation and Conservation staff (during annual inspections with town staff) have commented on the beauty, care, and condition of the structure. The Airlie Dam and Reservoir, along with the downstream Warrenton Reservoir, are critical assets to the Warrenton community.</p>	<p>The JMSWCD frequently receives information concerning environmental grants and other funds available from various government agencies and private organizations. The District is developing an email list so this information can be forwarded to interested parties. Any teacher who wants this information should call the District at 347-3120 x 3, or email Chuck Hoysa at chuck.hoysa@va.nacdn.net. The District will be happy to assist with the grant writing process, provide letters of support, or to serve as a cooperating partner where appropriate.</p> <p><u>Build Your Own Rain Barrel</u> and <u>Build Your Own Rain Garden</u> are just two of several publications available from the Chesapeake Bay Foundation. Both of these publications can be viewed and downloaded from the CBF website at http://www.cbf.org/site/PageServer?pagename=edu_homepage.</p> <p>The Department of Conservation and Recreation has numerous publications online, including the booklet <u>Soil and Water Conservation Puzzles for Kids</u>. It can be accessed at http://www.dcr.state.va.us/sw/docs/swpuzlz.pdf.</p>
Employee News	
<p>The District bids a fond farewell to John Cooke, NRCS Civil Engineering Technician, who has accepted a new position in the Richmond area, and to Mike Blake, Erosion & Sediment Program Manager, who has accepted a similar position closer to home in Spotsylvania. While we lose John and Mike, we are gaining Rex T. Rexrode, who started June 14 as the NRCS District Conservationist.</p>	
EVENT CALENDAR	
Apr.-Oct.	Master Gardener Lawn and Garden Helpline -Call the Fauquier County Master Gardeners with all your gardening questions. 540-341-7950 x 19
June 19	Fauquier County Food Coalition Food Distribution , contact Heather Greenwood, 540-341-7950x13
July 17	Fauquier County Food Coalition Food Distribution , contact Heather Greenwood, 540-341-7950x13
July 15-18	Fauquier County Fair , Fauquier County Fairgrounds, Warrenton
July 22	Dairy and Crop Field Day —Cool Lawn Farm, Remington, contact Keith Dickinson, 540-341-7950x12
August 7	1st Annual Piedmont Farm & Food Show , Fauquier County Fairgrounds, Warrenton
August 21	Fauquier County Food Coalition Food Distribution , contact Heather Greenwood, 540-341-7950x13
Sept. 17	Fauquier County Fall Farm Tour —School Day
Sept. 18	Fauquier County Fall Farm Tour —Public Day
Sept. 18	Fauquier County Food Coalition Food Distribution , contact Heather Greenwood, 540-341-7950x13

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The Woods at Warrenton Wetland Bank, just east of Warrenton, is being created to offset commercial and residential construction. It is a 'bank' of wetland credits that can be 'sold' to developers who are impacting wetlands on other projects within the watershed. The Licking Run Wetland (off Route 806 south of Catlett) and Pandora Farms Wetland (adjacent to Prince William County) sites were created to offset wetland impacts created by the expansion of Dulles Airport. There are some 'extra' credits which have been or will be sold at these sites as well.

The Great Oaks Mitigation site north of Warrenton will offset future VDOT work. This site is unique in that it is actually built on a slope of 5 -6% and is driven by groundwater flow from the slope. Most wetlands are built on flat land near a stream where water can be diverted or flooded into the site and where the water table is near the surface. A combination of forested wetlands mixed with ponded or channeled emergent wetlands is typical to help ensure hydrology.

The JMSWCD inspects these wetland projects up until they have become stabilized with vegetation and will not pose an erosive threat to nearby streams and creeks. The developers and a mitigation team made up of staff from the U.S. Corps of Engineers, Department Environmental Quality, U.S. Fish and Wildlife Service, the Environmental Protection Agency and the Department of Game and Inland Fisheries will monitor these sites for a minimum of 5 years to insure that

they become a functioning wetland with the proper groundwater and surface hydrology and the right kinds of plants. These mitigation sites are generally placed in a Conservation Easement (held by a non-profit organization) to ensure that they won't be developed in the future. Escrow accounts are set up by the developer and transferred to the Conservation Easement Owner to allow for any future maintenance that may be needed.



Cedar Run Wetlands – An area with emergent (non-woody) vegetation growing.

Thanks to Mr. Jamie Ingram (Greenhorne & O'Mara) and Mr. Joe Caterino (Angler Environmental) for sharing their expertise.

The Conservation Strip is a quarterly publication of the **JOHN MARSHALL SOIL AND WATER CONSERVATION DISTRICT**, 98 Alexandria Pike, Suite 31, Warrenton, VA 20186

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Growing Bay Grasses

The decline of naturally occurring grass beds in the Chesapeake Bay has been linked to plummeting populations of crabs, fish, and other organisms that depend on the vegetation for either food, shelter, or both. When the opportunity arose to participate in a grass restoration program, science teachers Jen Lentek and Claire Mello of Highland School in Warrenton jumped at the chance for their students to participate. The Chesapeake Bay Foundation conducted a workshop in early April and made planting kits available.

The teachers each received a kit consisting of a large plastic tub, planting trays, water pumps, heaters, filters, lights, and thermometers. Wild celery seeds were provided as the bay grass of choice. Wild celery is one of a group of aquatic plants known collectively as Submerged Aquatic Vegetation (SAV). Huge expanses of SAV once covered most of the shallow waters of the Bay, but they started to decline rapidly in the 60's and 70's from excessive sedimentation and nutrient pollution.

Wild celery is used in restoration projects because it is relatively easy to grow in 8-10 weeks, and it is adapted to the lower salinity waters of the upper Bay.

The seeds were planted in trays with a mixture of 50% sand and 50% topsoil. The trays were then gently lowered into the large tub of water. In the picture below, a plastic bag is used to temporarily cover the tray so water doesn't dislodge the seeds while it is being submerged. The seeds germinated in one week, and were ready for transplanting day on June 5 in the waters of Mason Neck Park in eastern Fairfax County.



Students from Highland School grew aquatic grasses to plant in the Chesapeake Bay.

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